CHORDARIEÆ, sixteen are natives of these colonies; while in Dictyota, Dilophus, and Glossophora, which, together contain thirty-four species, no fewer than fifteen belong to the same localities.

It is almost superfluous to say that the work in every part gives evidence of the careful and patient observation which characterise all the writings of Dr. Agardh, and render them so valuable an aid to the study of algology. It is to be hoped that before long we may have the pleasure of welcoming another instalment of his contributions to the study and classification of the Melanosperms.

M. P. M.

NOTES

THIS week we give the first of a short series of articles on the life and work of the late Mr. Darwin. The series is under the general care of Dr. G. J. Romanes, F.R.S., who also will take special charge of the Zoology and Psychology. The Geology will be by Prof. Geikie, F.R.S., Director of the Geological Survey, and the Botany by Mr. W. T. Thiselton Dyer, F.R.S.

THE first meeting of the Executive Committee of the Darwin Memorial was held in the rooms of the Royal Society on Tuesday, May 16, at which it was resolved that subscriptions be invited in order to promote such a memorial of the late Mr. Darwin as shall seem most fitting, having regard to the amount that may be collected. Subscriptions will be received by Mr. J. Evans, Treasurer, Royal Society, Burlington House, W.

AT a meeting of Convocation of the University of London held May 9, the following resolution was unanimously passed:—"The Graduates of the University of London, in Convocation assembled, desire to record their sense of the irreparable loss which science and philosophy have sustained in the death of Mr. Darwin, whom they recognise as an acute and patient investigator, an earnest seeker after truth, and an original thinker, whose discoveries have exercised a profound influence upon scientific research and upon the progress of scientific thought throughout the world."

A NOVEL feature at the meeting of Convocation of London University, last week, was the appearance for the first time of female graduates in academical costume. Sir George Jessel, who presided, gave some statistics to show the rapid progress in the numbers availing themselves of the University's examinations, while Sir John Lubbock pointed out the progress that had been made in scientific education during the past year, referring especially to the City Technical Institute. "What is wanted," he said, "is not so much money or men, as method and organisation, and to utilise the resources we already possess." He referred to the wasted resources of Gresham College, which, he said, ought to be "placed on a footing more in accordance than it has been with the wise designs of its noble founder." It was agreed to request the Senate to take definite steps with regard to this fossilised institution.

A WELL-DESERVED baronetcy has been conferred upon the eminent scientific agriculturist, Dr. John Bennet Lawes, F.R.S. The vast services rendered to agriculture by Sir John B. Lawes, in connection with Dr. Gilbert, are well-known. The new baronet, we learn from the *Times*, was born in 1814, and succeeded to his estate at Rothamstad, in Hertfordshire, in 1822. Mr. Lawes was educated at Eton and at Brasenose College, Oxford, where he remained from 1832 to 1835. During his academic career he displayed at once a strong partiality for the laboratory, and on leaving the University, spent some time in London, for the purpose of studying in a practical manner the science of chemistry. Possessed of independent means, a handsome property, and a beautiful old manor-house and demesne, Mr. Lawes at once interested himself in agriculture. In October, 1834, he first commenced regular experiments in agricultural chemistry on taking possession of his property and home at Rothamstead, and from that date up to the present time Mr. Lawes has unceasingly been applying his scientific knowledge to the solution of questions affecting practical agriculture. Sir John Lawes, we believe, has not only entirely maintained his experimental farm of 500 acres, but has further set apart a sum of 100,000*l.* and certain lands for the convenience of the undergraduates after his death. This is indeed a gift to the nation, a gift, too, which no money value adequately represents.

MR. F. V. DICKINS, M.B., B.Sc., has been appointed Assistant Registrar to the University of London, in succession to Prof. Moseley.

THE second meeting of the Bohemian Naturalists and Physicians will take place at Prague during May 24-30, to celebrate the foundation of a Slav University in that city.

M. COCHERY, the Minister of Postal Telegraphy in France, has printed a circular extending the use of telephones to provincial cities. The charge for telphonic communications in the cities where the government will establish central halls, is 10*l.*, and in the cities where the number of subscribers will exceed 300, the subscription will be reduced to 8*l.* a year. The subscribers will have the right of supplying their own telephones from among those approved by the Government. Special rooms will be fitted up in Paris, as well as in the provinces for telephonic conversations. The charge will be 5*d.* from each interlocutor for each five minutes. The time allowed will not exceed ten minutes if there are other would-be interlocutors waiting. The telegrams received for the subscribers to the telegraphic offices will be telephoned to them if desired. The subscribers will enjoy the privilege of telephoning their letters to the Post Office for immediate despatch, on paying a charge of 5*d.* for each 100 words; this privilege is limited to 200 words, the postage must be paid besides. Telegrams will be received in the same manner and on the same scale.

DURING the last two or three years a bark containing quinine and quinidine has been imported into this country from Columbia in such enormous quantities as to equal or even sometimes exceed the whole of the importations of cinchona bark from all other countries. The botanical source of this bark, which is known in commerce under the name of Cuprea Cinchona, on account of its peculiar coppery tint, has hitherto been a mystery. M. Triana, the well-known quinologist, has recently succeeded in tracing it out, and has stated, in the *Pharmaceutical Journal* for April 22, that it is derived in great measure from two species of the nearly allied genus *Remijia*, none of the members of which were previously known to contain quinine. Several species of *Remijia* have leaves resembling those of the true Cinchonas, and of these M. Triana has determined that *R. Purdieana*, Wedd., and *R. pedunculata*, Karsten, certainly yield Cuprea bark, the former being the species which contains the alkaloid Cinchonamine, recently discovered by M. Arnaud. It appears probable that other species also yield the Cuprea Cinchona of commerce, but definite information on this point is still wanting. The value of this bark has led, according to M. Triana, to great devastation of the forests in which the trees grow, and has produced a financial stagnation, business being neglected in order to follow the more profitable occupation of collecting the bark. Fortunately seeds of the tree have been received and are now in cultivation at Malvern House, Sydenham. The tree is likely to prove valuable for cultivation in countries where malarial fever abounds, since it grows at an elevation of 200-1000 metres above the sea, at which even red Cinchona bark will not flourish.

A SATISFACTORY *Report* for 1881 has been issued by Mr. Paton, curator of the Kelvingrove Museum, Glasgow. The natural history collections especially have greatly increased during the past year, and if displayed properly, would themselves fill the Museum. It seems strange that so wealthy a city as Glasgow should be content to have their growing and valuable museum so inadequately housed.

DR. P. A. BERGSMA has resigned his appointment as Director of the Batavia Observatory, and is returning to Europe. We have often had occasion to refer to the good work done by Dr. Bergsma at this Observatory, especially on Meteorology.

MR. HENRY DYER, the efficient principal of the Imperial College of Engineering, Tokio, Japan, is about to return to this country.

THE death is announced of Col. J. T. Smith, R.E., F.R.S., for many years Master of the Mint at Madras, and the author of some valuable optical discoveries.

WE regret to learn of the death, at the early age of thirty-two, of a promising young science teacher and lecturer, Mr. Thomas Dunman, lecturer on Physiology at the Birkbeck Institution, and Physical Science Lecturer at the Working Men's College. His brief career furnishes a remarkable instance of what may be done by energy, perseverance, and a strong faith in one's own powers. Mr. Dunman has done excellent work in science teaching at both of the institutions mentioned. In 1879 he published a glossary of "Biological, Anatomical, and Physiological Terms," and finding his Lectures on Popular Scientific Subjects were so much appreciated, he commenced last year to issue them in pamphlet form.

MESSRS. BAILLIÈRE, TINDALL, AND COX have the following announcements:—A revised and enlarged edition of Harris and Power's "Manual for the Physiological Laboratory" will appear on June 1; a second edition of the Portrait-picture of the International Medical and Scientific Congress of 1881 is in course of preparation, with a few additional portraits; a second part of the President of the Royal College of Veterinary Surgeons' (Mr. Fleming) work on "Animal Plagues," from the beginning of the present century, will be published during the next few days.

PROF. ROSCOE, with other members of the Royal Commission on Technical Instruction, visited Vienna during the past week. Mr. Samuelson, M.P., the president of the Commission, and Mr. W. Woodall, M.P., left on Friday to join their colleagues at Dresden. After inspecting the schools and manufactories in Saxony, it is the intention of the Commissioners to proceed to Berlin.

WE have received copies of a circular letter and inclosures which have been issued to the scientific societies of the United Kingdom (with the exception of the Chartered London Societies, and the medical and some few other societies of a similar character) within the last few days. These papers are issued in pursuance of the resolutions adopted at the second Conference of Delegates of Scientific Societies held at York. Any society desirous of receiving these, or intending to send a Delegate or Delegates to the Southampton Meeting of the British Association, should apply to Mr. W. G. Fordham, Odsey Grange, Royston. Mr. Fordham would be obliged to secretaries of scientific societies, or any of our readers, who would assist him in compiling a complete list of the scientific societies of the United Kingdom, by sending him information, particularly with reference to the smaller provincial and local natural history societies, and similar bodies.

WE have received the Annual Reports of three local scientific societies—East Kent, West Kent, and Wellington College. They all speak favourably of the work of the past year and of the progress of the societies. The Report of the West Kent Society contains a sensible address on Evolution, by the president; and that of the Wellington Society shows that considerable improvement has taken place since the last report.

ON Saturday afternoon last the members of the Essex Field Club met in the private lecture-room in the Natural History Museum, South Kensington, at the invitation of Dr. Henry Woodward, F.R.S., who delivered a very interesting and instructive lecture on the "Ancient Fauna of Essex." The lecture was amply illustrated with specimens and diagrams, many of the latter being specially prepared for the occasion, and at its close Prof. Morris gave a brief *résumé* of the principal facts of the geology of the Thames and Roding Valleys. Dr. Woodward afterwards conducted the party through the palæontological galleries, and practically demonstrated many of the more remarkable forms referred to in his lecture.

THE funds voted by the French Government for the next Transit of Venus Expedition not being deemed sufficient, the great commission presided over by M. Dumas in consequence of the deficiency, is making an application to the Minister of Public Instruction for an extension of credit.

M. ELOY, a young aëronaut who executed on Sunday, May 7, an interesting ascent, reported at full length to the Academy of Sciences on the following day, is to make a series of scientific ascents from La Villette Gasworks, and has submitted to M. Dumas a detailed programme of his proposed observations. We may state that their bearing is mostly on the nature of clouds, their dimensions, their formation, their propulsion by the wind, and their situation in the several strata of air by which they are propelled. The questions proposed by M. W. de Fonvielle to Dr. Hermann Kopp will be solved as far practicable.

A LARGE Lacustrine canoe, in excellent condition, has been found near Bex, 4000 feet above the sea-level, and nearly 3000 feet above the Valley of the Rhone. No Lacustrine relics have ever before been met with in Switzerland, at such an elevation.

AN International Hygienic Conference is to be held in Geneva in September next.

WE regret to learn that the Hygienic Exhibition which was in preparation in Berlin has been almost destroyed by fire; but the Committee have resolved to carry out the enterprise next spring.

HIS EXCELLENCY the Marquis of Lorne, Governor-General of Canada, has instituted a Society for the "Advancement of Literature and Science in the Dominion of Canada," the first meeting of which is fixed to take place in the city of Ottawa on May 25, 26, 27. The President is Principal J. W. Dawson, C.M.G., F.R.S.

THERE is an interesting paper in the last number of the *Revue Scientifique*, by M. Ch. Cornevin, on the Domestication of the Horse.

IN connection with the election of M. de Freycinet to the Paris Academy of Sciences, it may be noted that not less than twenty-four members of the Senate belong to the several classes of the Institute of France, seven to the Academie Française, five to the Academy of Sciences, Morals, and Politics, five to the Academy of Inscriptions and Belles Lettres; of these twenty-four, not less than twenty are life-senators, whose number is only seventy-five, and seven have been ministers. In the French Lower House the number of Academicians is very small, only three—two of the Academy of Sciences, one of these having been minister, and one of the Academie Française.

PROF. FOREL distinguishes three regions in a glacier:—1. The *nevé* (*infancy* of the glacier). Excess of snow; the summer heat not sufficient to melt the snow of the year. All the water produced is absorbed and assimilated by the ice-layers; deep temperature below zero. 2. The *glacier adolescent.* Summer heat fuses all the snow of winter, and attacks by ablation a part of the ice. All the water of imbibition is absorbed and assimilated by the ice; deep temperature below zero, even at the end of summer. 3. The *glacier senile.* Summer heat is in excess. The water of imbibition exceeds the quantity necessary to reheating of the ice, which rises to 0°, and the excess of water flows away in the glacial torrent. Temperature of the glacier at 0° during summer.

ON May 8 three shocks of earthquake were felt at Laibach (Carniola), the first occurring at 9h. 38m. p.m., the last, at midnight, was the most severe, and, lasting two seconds; it was accompanied by a loud subterranean noise.

ACCORDING to statistics recently worked out, the number of railway travellers killed in France is one in each 1,600,000,000 km. run, which is a distance equal to 40,000 times the length of a voyage round the world. This excursion would last during 3044 years travelling day and night at the rate of 60 kilometres per hour. So that, supposing an average life-time of sixty years for a healthy man, before he could be killed by a railway accident according to the law of probabilities, he would have died fifty times a natural death.

IN the Report of the Paris Academy of Sciences for April 24 (NATURE, vol. xxvi. p. 24) the statement with regard to Prof. Roscoe's paper "On the Equivalent of Carbon determined by Combustion of the Diamond" should read "Representing O by 15·96, C becomes 11·97." In the *Comptes Rendus* it is 11·07.

THE additions to the Zoological Society's Gardens during the past week include a Bonnet Monkey (*Macacus radiatus* ♀) from India, presented by Mr. H. B. Hamer; a Common Paradoxure (*Paradoxurus typus*) from Java, presented by Mr. F. E. Spellerberg; a Black-faced Kangaroo (*Macropus melanops* ♀) from South Australia, presented by Mr. C. T. H. Bower; two Silver-backed Foxes (*Canis chama*) from South Africa, presented by Major-General E. A. Bacon; two Long-eared Owls (*Asio otus*), British, presented by Mrs. E. Brewer; two Alligator Terrapins (*Chelydra serpentina*), a Box Tortoise (*Terrapene*, sp. inc.), a Floridan Terrapin (*Clemmys floridana*) from North America, presented by Mr. G. E. Manigault; two Beautiful Finches (*Estrelda bella*) from Australia, presented by Mr. J. Abrahams; an Allen's Galago (*Galago alleni*) from Fernando Po, a Levaillant's Cynictis (*Cynictis penicillata*) from South Africa, a Common Otter (*Lutra vulgaris*), British, a Swinhoe's Pheasant (*Euplocamus swinhoii* ♀) from Formosa, five White-winged Choughs (*Corcorax leucopterus*), a Spotted Bower Bird (*Chlamydora maculata* ♂) from Australia, four Common Sheldrakes (*Tadorna vulpanser* ♂ ♂ ♀ ♀), European, two Talpacoti Ground Doves (*Chamæpelia talpacoti*) from South America, purchased; a Bennett's Wallaby (*Halmaturus bennetti* ♂), an American Bison (*Bison americanus*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE COMET.—On May 12 the comet was within naked-eye vision, and will nightly increase in brightness. Writing from Cuckfield on May 13 Mr. G. Knott says: "The sky was very clear here last night, and I found that I could just see the comet with the naked eye, on knowing just where to look for it. I fancy that its visibility must have been in part due to the fact that its tail is pretty bright for about ¾°. When viewed with an opera-glass its light seemed hardly equal to that of neighbouring stars rated 6·7 (*i.e.* 6⅓) by Heis, and 6·5 by Argelander in D.M. In the telescope the light of the head seemed about equal to that of a 7 mag. star." This estimate by so careful and experienced an observer of star-magnitudes will furnish a reliable criterion as to the future increase in the brightness of the comet, assuming that it follows the ordinary theoretical rule.

The following orbit has been calculated by Mr. Hind from the observations at Harvard and Albany, U.S., on March 19, one at Paris on April 11, and a position obtained at the Royal Observatory, Greenwich, on May 4:—

Perihelion passage, 1882, June 10·51851 G.M.T.

	°	′	″	
Longitude of perihelion	53	54	23·2	Mean Equinox, 1882·0.
,, ascending node...	204	53	31·3	
Inclination...	73	46	23·2	
Log. perihelion distance... ...	8·783187			

Motion—direct.

By a meridian-observation at Greenwich on May 12 (eight days after the last observation employed for the orbit), which Mr. Christie has caused to be reduced with every precision, the corrections to the computed place were: $\Delta\alpha \,.\, \cos\delta = -9''{\cdot}0$; $\Delta\delta = +28''{\cdot}5$. Differential observations at the Collegio Romano, in Rome, on May 10, kindly communicated by Prof. E. Millosevich, give $\Delta\alpha \,.\, \cos\delta = -20''{\cdot}6$, and $\Delta\delta = +26''{\cdot}0$, parallax and aberration being taken into account.

The ephemeris subjoined is calculated from these elements for Greenwich midnight:—

	R.A.			Decl.		Log. dist. from Earth.	Intensity of light.
	h.	m.	s.	°	′		
May 20	2	53	31	+67	15·1	9·9494	1·67
21	3	5	49	65	51·0	9·9494	
22	3	16	51	64	22·5	9·9496	1·92
23	3	26	46	62	50·1	9·9502	
24	3	35	42	61	14·2	9·9511	2·24
25	3	43	45	59	35·2	9·9523	
26	3	51	2	57	53·1	9·9538	2·64
27	3	57	39	56	8·1	9·9557	
28	4	3	42	+54	20·6	9·9580	3·18

Considering that the comet is still at a great angular distance from the perihelion and the heliocentric motion slow, the following places for the beginning of June can be regarded as approximate only:—

At Greenwich midnight

	R.A.		Decl.		Log. distance.	Intensity of light.
	h.	m.	°	′		
June 2	4	27·1	+44	35	9·9747	6·0
3	4	30·8	42	27	9·9794	7·1
4	4	34·5	40	12	9·9845	8·8
5	4	37·8	37	51	9·9902	11·2
6	4	41·2	35	20	9·9965	15·2
7	4	44·8	+32	36	0·0036	22·6

The intensity of light on May 12, when Mr. Knott made his estimate of the comet's brightness, is here taken as the unit.

At noon on June 10, the intensity of light referred to this unit is 147, and at noon on June 11 it is 154. The probability of seeing the comet near the sun on these days is not now so great perhaps as it appeared to be from the earlier orbits.

At the meeting of the Royal Astronomical Society on the 12th inst., the Astronomer Royal referred to the absence of bright lines in the spectrum of the comet, according to repeated observation at Greenwich. It will be interesting to watch the comet's development as it approaches the sun.

BINOCULAR PERSPECTIVE

THAT a near object, of small size, presents an aspect slightly different to each one of a pair of eyes directed upon it seems to have been known since the time of Euclid; but not until the present century has binocular vision been made a subject of special study.

In 1838 Wheatstone presented a communication on the Physiology of Vision (*Phil. Transactions*, 1838, Part 2, reprinted in *Phil. Magazine*, s. 4, vol. iii. April, 1852) to the Royal Society, in which he described his invention of the reflecting stereoscope, by which rays from two slightly dissimilar pictures were conveyed into the right and left eyes respectively, producing the visual illusion of binocular relief. The essential feature of this instrument he describes by saying (*Phil. Mag.* April, 1852, p. 245): "The two pictures, or rather their reflected images, are placed in it at the true concourse of the optic axes."

In 1844 Brewster published an essay (Edinburgh *Transactions,*